

## REMOVABLE BATHTUB RAIL FOR CHILDREN

### FIELD OF THE INVENTION

The present invention relates to safety devices for use  
5 when bathing and to devices to assist a bather. In  
particular, the present invention relates to devices for use  
while bathing a child. While most safety devices are used by  
adults when bathing a child, the device of the present  
invention is utilized by the child, to build comfort and  
10 confidence in the tub.

### BACKGROUND OF THE INVENTION

Permanently installed safety rails are often installed in  
bathtubs and/or showers, for use by elderly or infirm bathers.  
15 These safety rails are intended to support the weight of an  
adult. Because of their size, and placement, they are of  
little use to a young child. In addition, in-home bathtubs  
may be provided with randomly spaced rubber nonskid lines or  
patches which are attached to the surfaces of the tub. While  
20 these provide reasonable safeguards for adult bathers, they  
provide little sense of safety for children.

Any number of bathtub devices have been provided to safely seat a small child in the tub. Examples of such seats may be found in U.S. Patent No. 5,687,433, and U.S. Design Patent No. 376918. Typically, the seat is provided with a sturdy base, leg openings, and waist-level ring to prevent child from falling over in the bathtub. These devices limit the child's movement and play activities, by preventing a child from lying down in the water or learning how to move safely in the water. Thus, these devices prevent the child from learning how to be, and feel, safe in the water. In addition, the seats are bulky, making them difficult to transport and store.

#### SUMMARY OF THE INVENTION

The present invention provides an easily installed, removable, and stored/transportable handrail for a child's use in a bathtub. The child's bathtub rail comprises a hand-grasping rail, with two horizontal anchors securing the hand rail to the back wall of the tub, and two vertical anchors, secured to the bottom of the tub, holding up the rail. Preferably, the rail is elongated, and extends along the length of the tub.

The horizontal anchors may be connected substantially perpendicularly to the rail, and extend parallel to one another to the wall of the tub, terminating with suction cups, for securing the anchors to the wall of the tub. The two  
5 vertical anchors are also connected substantially perpendicularly to the rail, and extend parallel to one another to the bottom of the tub, terminating in suction cups, for securing the anchors to the bottom of the tub.

10 The child's removable bathtub rail of the present invention may be made of hollow plastic piping. Though it is possible to construct the hand grasping rail and anchors in a single piece, it is more convenient, and provides a more secure attachment to the tub, to construct the bathtub rail of  
15 a number of pieces. The various pieces of the child's bathtub rail must be capable of being securely fastened, such that a child cannot disassemble them, but an adult the easily disassembled them. Suitable fastenings are, e.g., typical pipe fittings, e.g., slip fit closures, threaded closures,  
20 snap on closures and e.g. chamfered or beveled friction fit closures. An external apertured tab and button closure may also be used.

The horizontal anchors may be connected to the rail by elbow connectors, and the vertical anchors may be connected within, or joined, to the hand rail by means of T-connectors. The horizontal anchors are preferably of equal length, as are the vertical anchors.

The suction cups are preferably connected to the horizontal anchors and vertical anchors by pivotable connections mounted on separate end pieces. Not only are the pivotable fastenings more secure, they permit instillation of the rail in a tub with rounded walls. The horizontal anchors preferably comprise at least two pieces, as do the vertical anchors. It is also preferred to construct the elongated rail from at least two pieces. The multiple piece construction serves a number of purposes; such as, permitting easy storage and transportation when disassembled, and absorbing forces applied to the bathtub rail without popping the suction cups from bathtub.

Preferably, the T-connectors are connected between the elbows of the horizontal anchors and the handrail. A rail spacer may be included between the T-connector and the elbow

connector. A horizontal spacer may be connected between the elbow connectors and the pivotable suction cup end pieces.

If desired, the child's bathtub rail may be provided with various decorations or toys. In addition the hand grasping rail may be constructed of transparent material, and the ends sealed, so as to contain a liquid with decorative objects disposed therein.

The child's bathtub rail of the present invention may be easily assembled for use, and easily taken apart for storage. Thus it can be used in a tub that may be used later by larger children or adults. It may also be easily transported for use in a tub away from home. The child's bath tub rail helps a child develop confidence, and a sense of security, while learning to move safely in the water.

These objects, as well as other objects which will become apparent from the discussion that follows, are achieved, in accordance with the present invention,

For a full understanding of the present invention, reference should now be made to the following detailed

description of the preferred embodiments of the invention as illustrated in the accompanying drawings.

#### BRIEF DESCRIPTION OF THE DRAWINGS

5        Figure 1 is a top perspective view of the removable child's bathtub rail of the present invention installed against the back wall of the bathtub.

10        Figure 2 is an exploded view of the assembly of a preferred embodiment of the removable bathtub rail of the present invention.

15        Figure 3 is a perspective view of a child seated in a bathtub in which the removable bath rail of the present invention has been installed.

20        Figure 4 is a perspective view of child lying down in a bathtub in which the removable bath rail of the present invention has been installed.

      Figure 5 is a top perspective view of a child holding onto the bath rail of the present invention, while playing in the bathtub.

## DESCRIPTION OF THE PREFERRED EMBODIMENTS

The preferred embodiments of the present invention will now be described with reference to Figs. 1-5 of the drawings. Identical elements in the various Figures are designated with  
5 the same reference numerals.

The present invention provides a device or tool with which a child can stabilize himself/herself in the bathtub. The devices are lightweight, easily assembled, removably  
10 secured by e.g., suction cups, and portable for use away from home, such as when on vacation. In addition the removable installation of the bathtub rail permits the same tub to be easily used by larger children or adults after the child has finished his/her bath.

15 Figure 1 illustrates a top perspective view of the easily removable child's bathtub rail of the present invention, installed within a bathtub, shown generally at 10. The bathtub has a bottom surface, 12, and a back wall, 14. The  
20 typical enameled surfaces of a bathtub can be slippery when dry. When water and soap are added to the tub the surfaces can become quite slippery. The bathtub rail of the present invention, shown generally at 16, secured within the tub. The

bathtub rail is anchored to both the back wall of tub and the bottom of the tub provides a hand grasping rail for a small child. It is important to note that the rail must always be secured to the back wall of the tub. If attached to the front wall of the tub, a child might fall into or out of the tub, if s/he attempted to step on the rail.

A shown in Figure 1 the easily removable bathtub rail comprises a rail, 18, with horizontal anchors 20, and vertical anchors 26. Preferably the rail is as long as the tub to provide greater opportunity for the child to grasp the rail. The anchors are attached to the surfaces of the tub by suction cups, described below.

The assembly of a preferred embodiment of the removable bathtub rail of the present invention is shown in Figure 2. The elongated hand-grasping rail 18 may be constructed of a number of pieces such as at 18A, 18B, and 18C, which may be disassembled for storage. Preferably the horizontal anchors, 20 are connected to the elongation rail by elbow connectors, 32. In this preferred structure the vertical anchors, 26 are connected within, or joined to, the elongated rail by means of T-connectors, 36. The various pieces of the child's bathtub



rail of the present invention are securely fastened, such that a child cannot disassemble them, but an adult the easily disassembled them. Suitable fastenings are, e.g., typical pipe fittings, e.g., slip fit closures, threaded closures, snap on closures and e.g. chamfered or beveled friction fit closures. An external apertured tab and button closure may also be used.

The horizontal anchors, 20 are attached to the back wall of bathtub by means of suction cups 24. The suction cups are preferably secured to the end pieces, 22, of the horizontal anchor by a pivotable connections, 38. As shown, the protuberance 38a, formed of the resilient material of the suction cup, is inserted through opening 38b in the end piece of horizontal anchor. The pivotable connection, 38 prevents stresses applied to the horizontal anchor to be absorbed in the pivotable connection, decreasing the stresses applied to the suction cups 24, to maintain a firm attachment to the back wall of the bathtub.

In this preferred construction, the horizontal anchor preferably comprises at least two pieces, the end piece 22 and a horizontal spacer 40. As shown in Fig. 2, the leading edge of the horizontal spacer, 40, has an external diameter

slightly less than the internal diameter of end piece, 22, and elbow, 32, facilitating assembly of the pieces. Multiple piece construction has other advantages, such as, with the appropriate fittings, permitting assembling the rail in various sizes, or heights. In addition, each connection between the pieces provides additional shock absorption, to prevent the suction cups from accidentally releasing from the back wall of the tub.

Similar considerations apply to the construction of the vertical anchors. As shown in Figure 2, in this preferred construction the vertical anchors also comprise at least two pieces, the end piece 28, and a vertical spacer 42, between the end pieces and the T-connectors. With appropriate fittings, the vertical spacer can be made shorter for a small child, and taller for a larger child. The multi-piece vertical anchor will also be more resilient due to the multiple connections. Suction cups 30, are pivotably connected to end piece 28 by protuberance 38a secured within an opening 38b in end piece 28.

In this preferred construction, rail spacers, 44, extend between the T-connectors, 36, and the elbow connectors, 32.

The rail spacers, 44, have an external diameter slightly less than the internal diameter of the T-connectors, and elbows. The rail spacers also provide a longer rail, 18, though multiple connections will more easily absorb forces applied to the handrail.

In this preferred construction the bathtub rail is constructed from resilient plastic pipe material. The resilience of the plastic pipe material also absorbs stresses applied to the rail so as not to pop the suction cup fastenings.

As shown in Figure 3, the bath water has been drawn and the child is seated in the tub. The child has grasped the elongated rail with one hand to stabilize himself/herself in the seated position. Using the rail, the child may easily and confidently navigate the length of an adult sized bath tub. As shown in Figure 4 the rail may also be used while the child is lying in the tub, to keep his/her face above the water. It is important to note that the child, alone, makes use of the bathtub rail. As shown in Figure 5, ready access to the rail permits confident, vigorous, play.

There has thus been shown and described a novel removable bathtub rail for children which fulfills all the objects and advantages sought therefore. Many changes, modifications, variations and other uses and applications of the subject invention will, however, become apparent to those skilled in the art after considering this specification and the accompanying drawings which disclose the preferred embodiments thereof. All such changes, modifications, variations and other uses and applications which do not depart from the spirit and scope of the invention are deemed to be covered by the invention, which is to be limited only by the claims which follow.